



# Money and Capital Market Analysis: Twins Comparison (Cameroon and Ivory Coast)

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## ABSTRACT

This paper compare the money and capital market of two formal French colonies, Cameroon and Ivory Coast. Aggregate lending and stock market capitalization were used as money and capital market performance variables respectively. A ratio of these variables to GDP determine the extent to which they can contributes to GDP growth. Through regression result, we noted a strong significant role of Ivory Coast capital market to her GDP. A Weak but significant contribution of capital market activities to GDP was recorded for Cameroon. Money market activities recorded a positive and significant contribution to GDP growth in both economies. We recommended a single regional CEMAC stock exchange market.

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## 1. Introduction

Money and capital markets complement each other in a system to stimulate economic benefits (economic growth and development) for an economy Surbhi S (May 2015). Money market instruments (certificates of deposit, checks, treasury bills and liquid cash) assist short term transactions and economic realizations. These instruments are effectively utilized with the help of commercial bank, central bank and other money market institutions. The stock exchange market, investment banks and companies, insurance and pension's fund act in the system to channel long term resources from surplus to shortage units. This is through equity, bonds and other long term contracts like life and not life insurance, Investor Guide (2016). These markets are control and regulated by regulatory agencies. These agencies are instituted by the government, act independently but accountable to the state. They regulate and set laws governing the activities of both the money and the capital market. The regulatory board's main goal is to direct an economy towards a set government's objective financial system. ru (2016). In effect both monetary and fiscal policies are geared to lead the money and capital markets towards a set of economic goals. Special agencies like the SEC (security and exchange commission) in the USA are institutes to govern the activities of the stock exchange market. To ensure implementation, fiscal and monetary policies are monitored by sector's regulatory authority. The overall output of an economy is the sum of the money and capital market productivity.

Can any of these markets be ignored or can one be superior to the other? While the money market remains a necessity in today's highly liquid and one world, the capital market maintains its position as the steaming engine of growth. After the elimination of the barter system of trade and the introduction of money, the money market takes its position and turn to support the government to meet up its daily dealings and payments. However the extent to which the money market is developed is not the same for every country. Some economies are still without an autonomous central bank (North Korea and some few Islands). However, 99.9% of world populations are under the guardianship of the central banking systems Tyler D. (June 2015). Other countries have few commercial banks serving the population. With few commercial banks, micro financial service turns to dominate the money market lending. Whereas standard developed economies like USA, European Union, Japan, South Korea and many others have sophisticated and advanced money market instruments and institutions that help to maintain their GDP growth. An economy can still survive without an effective

functioning of the capital market, but its growth rate compared to others will be relatively low. Till date there are still a number of countries without a stock exchange market (An apex institution of the capital market).

The further a financial system operates away from M1 (real cash and quick convertibles), the higher its ability to support economic growth and expansion. Only a well-developed capital market can give birth to an advanced financial system. The aggregate lending created by commercial banks and other money market institutions depict money market's contribution to economic growth. Equally the market capitalization (influenced by turnover and volume of stock market trade) can be reviewed in order to determine the role of capital market on GDP growth (Backe, et al. April 2016). This study aims at finding out if the money and the capital markets contribute to GDP growth of two formal French colonies (Cameroon and Ivory Coast). If yes in which case is their contribution more pronounce. After realizing a very little contribution of Douala stock exchange market to the GDP growth of Cameroon, we wish to compare this noted result to another formal French colony (Ivory Coast) which operates a regional stock exchange market. Previous study recommended the merge of Libreville stock exchange to the Douala stock exchange. A comparison of the Douala stock exchange with a regional stock market headquarter in Ivory Coast is of advantage to this body of idea.

The result of the study will help to determine if for real regional stock market is better than independent country stock exchanges. It will inform and direct Sub-Saharan and other developing economies on which of the financial markets to place developmental efforts. The rest of the study will be structured as follows: part 2 is a brief review of financial system, capital and money market. The research design (empirical research approach) is developed in part 3. In part 4 we present results, analyze and test hypothesis. We will end the study with conclusion and study guides in part 5.

## **2. Literature Review**

### **2.1 A financial system and financial markets**

Gurusamy, S. (2008), defined a financial system as a system that allows the movement of resources between creditors, debtors, and investors. This system exists at national, global, and firm-specific levels. They are made of complex, related services, markets and institutions used to provide an efficient bridge between investors and depositors. A financial system helps

resource mobilization and investment. It allocates resources between different sectors and allows a mutual risk sharing between firms and individual. Financial markets, financial institutions, non-financial institutions, financial instruments and to an extent regulatory bodies form the component of a financial system. They are two main types of financial markets in a financial system: the money market and capital market. While the money market mobilizes short term funding (assets own for up to 1 year) , the capital market allocates resources for long term purposes (Kristina Z , January 2016)

## 2.2. Differences Between the Money Market and the Capital Market

Surbhi, S (2015) compared the money and the capital markets in seven separate subtitle. Table 1 show the different summary of the two markets.

**Table 1**

Comparison between the money and the capital market

Bases for Comparison	Money Market	Capital Market
Meaning	A segment of the financial market where lending and borrowing of short term securities are done.	A section of financial market where long term securities are issued and traded.
Nature of the market	Informal	Formal
Financial instrument	Treasury bills, Commercial Papers, Certificate of Deposit, Trade Credit etc.	Shares, Debentures, Bonds, Retained Earnings, Asset Securitization, Euro Issues etc.
Risk factor	Low	Comparatively high
Time horizon	Within a year	More than a year
Merit	Increases liquidity of funds in the economy	Mobilization of Savings in the economy.
Return on investment	Low	Comparatively high

Source: Surbhi S (2015)

Even though the money and the capital markets have some differences, they all interrelate in the same financial system to stimulate economic performance and growth.

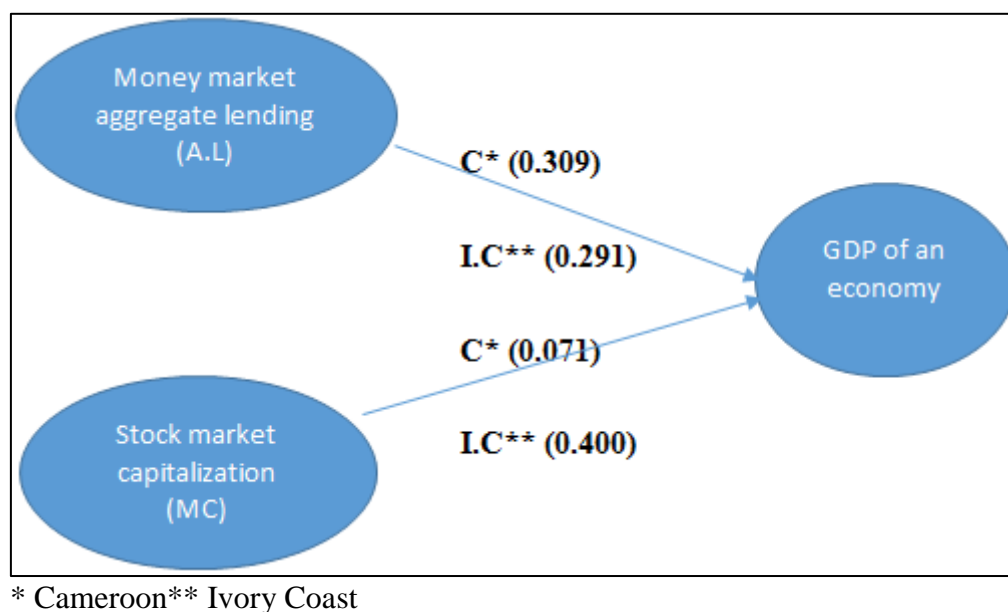
### 3. Empirical Research

#### 3.1. Motivation

An appraisal of the Douala stock exchange Backe et al. (2016) that followed a recommendation to merge it to Libreville stock exchange necessitated this study in the following ways: we realized a weak but functioning capital market, in this study we wish to find out if regional stock exchange like the BRVM can stimulate more economic realization compared to independent country's stock market. We equally wish to find out whether money market activities in both countries (Cameroon and Ivory Coast) contribute more to their GDP growth than capital markets. And lastly we aimed to compare both markets in both former French colonies. In this case we develop the following research objectives.

- To investigate and compare the performance of the Douala stock exchange and IBRG
- To compare money market performance of Cameroon with that of Ivory Coast
- To provide guides on the best 21<sup>st</sup> century choice of stock markets approach and operations
- To provide guides on best choice of financial system's development method

#### 3.2. Research Model (Factor loading plot)



**Figure 1**  
Research Model

### Regression (Mathematical) Model

$$GDP_C = \alpha + \beta_1 (A.L) + \beta_2 (MC) + \varepsilon$$

$$GDP_{IC} = \alpha + \beta_3 (A.L) + \beta_4 (MC) + \varepsilon$$

$GDP_C$  = gross domestic product of Cameroon, A.L yearly aggregate lending, MC = yearly market capitalization of country's stock market,  $\beta_1$  and  $\beta_2$  (cameroon)  $\beta_3$  and  $\beta_4$  (ivory coast) are the beta coefficients of aggregate money market lending and market capitalization of the stock market and  $\varepsilon$  is the error term considered to be normally distributed with a mean of 0 and standard deviation of 1. In addition to regression analysis, descriptive analysis (percentages or ratios, central tendencies and deviations or spread) and correlation will be used to add the explanatory ability of results.

### Hypothesis

**H01:**  $\beta_2 = \beta_1$  and  $\beta_4 = \beta_3$  (The money market's contribution to GDP is not different from that of the capital market)

**H02:**  $\beta_4 = \beta_2$  and  $\beta_3 = \beta_1$  (A regional stock market does not perform better than an independent country stock exchange, and the Ivory Coast's money market does not perform better than that of Cameroon).

## 3.3. Data Description

### A. Data Sources and Sample Period

We will extract secondary data from three main sources. The dependent variable (GDP) and yearly aggregate lending (2006- 2015) for both Cameroon and Ivory Coast will be collected from World Bank data base system. The market capitalization (MC) of the Douala stock exchange and BRVM stock exchange will be collected from their respective website. Volume of trade, number of listed companies per stock exchange in addition to MC will be collected for period 2010 to 2015.

## **B. Research Variables**

A financial system comprises of the money and capital market. These markets are said to both have a contribution to economic growth. The key activity of money market is bank lending. The Central bank lends to commercial banks and commercial banks lend to institutions and individuals. This lending is used to finance education, agriculture, manufacturing, roads, railways and mortgage constructions. To some economies micro financial institutions equally contribute to aggregate lending. Even as money market lending is in the short term, there is a positive relationship between it and GDP growth. The government can stimulate aggregate lending through money supply and interest rate policies (Sean R, July 2015). Increase in M1 and M2 money by central bank, can lower general interest rate which in turn helps to improve aggregate lending. We consider aggregate lending (stimulated by money supply and interest rate policies) as a predictor of GDP. Does this variable aggregate lending influence GDP in both country (Cameroon and Ivory Coast) and if yes, in which of these countries does it exert more pressure?

The second predictor is market capitalization of the stock exchange markets. The number of listed companies supports the volume of trade and turnovers. That is the more the number of listed institutions on the stock exchange, the higher the possibility of improved trade volumes and turnovers. There is equally a positive relationship between the number of issued and traded bonds (both corporate and government bonds) and the stock exchange market capitalization. Therefore, the sum of equity and bond capitalization is equal to the total market capitalization of a stock exchange market. In order to increase the size and volume of transactions on exchanges, some country's stock exchanges in the world are merging. Example is the Euronext and the current announce merging of the London stock exchange to Deutsche Boerse. A positive relationship equally exists between market capitalization of stock exchange and GDP growth of a country or a region. The study used GDP as the criterion (dependent variable). This is calculated using either output or expenditure methods which in both case should yield equal result. This variable (GDP) is a good approximation of performance appraisal of an economy. For example, the classification of USA economy as first and China economy as second is based on the overall yearly output measured by GDP level and its growth.

### C. Review of Statistic

**Table 2**

Comparative Review of DSX AND BRVM

	DSX (Douala stock exchange market).	BRVM (Bourse Régionale des valeurs mobilières)
Year of operation	2006	1998
Headquarter	Douala-Cameroon	Abidjan-Ivory Coast
Location	Central Africa	West Africa
Number of listed companies	3	40 (31 Ivory coast base firms)
Number of traded securities	2(shares and government bonds)	3(shares corporate and government bonds )
Member state	1 ( Cameroon)	8 (Ivory Coast, Benin, Burkina Faso, Mali, Niger, Senegal, Togo)
Status	Independent state stock exchange market	Regional stock exchange Market.
Current market capitalization	Shares and bonds: 277.83 billion CFA.	Shares and Bonds: 304.70 billion CFA.

Table 1 shows that the BRVM began its operations 8 years (1998) before the birth of the DSX (2006). BRVM was founded on the bases of regional stock market (8 countries) with its headquarter in Abidjan-Ivory Coast. But the Douala stock exchange market is not regional but a single country (Cameroon) stock exchange market. The BRVM has more listed companies (40) than the DSX (3). By 2006, the BRVM had 39 listed companies out of which 36 were Ivorian based firms (World Bank working paper, 2006).

The descriptive table shows that the minimum GDP value for Cameroon (17953066721.1) slightly exceeds that of Ivory Coast (17800887796.5) for the 10 years sample period. But the reverse is true when we compare the maximum values. Going by performance measurement ratio (Aggregate lending to GDP and market capitalization to GDP ratios), the descriptive statistics indicate that the Ivory Coast's economy is performing more in both markets than that of Cameroon. The average monthly aggregate lending to GDP ratio for Cameroon stood at 0.1165 less than 0.2355 for Ivory Coast. Similarly, the market capitalization to GDP ratio for Cameroon for the sample period was 0.013536 less than 0.3107 for Ivory Coast. In this regards it may not be wrong to say that Ivory Coast has a superior edge in the performance of both market over Cameroon. However a causal relationship technique (regression) will confirm the results of the descriptive statistics.



**Table 3**  
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
C.GDP	10	17953066721.1000	32050817633.0000	25485167395.019997	4625333989.5626000
C. AL	10	1430224626.4530	5224283274.1790	3109191645.392590	1513066448.6625125
C.AL as% of GDP	10	.0670	.1630	.116500	.0387047
DSX MC	10	7001696.0212	961524528.9900	388310686.946388	345666417.1011954
MC % GDPC	10	.0004	.0300	.013536	.0109352
IC. GDP	10	17800887796.5000	341022535695.2000	57052231393.570000	99889365396.2737400
IC. AL	10	3132956252.1840	97873467744.5224	15201718967.364868	29117067179.7718930
IC.AL as % of GDP	10	.1760	.2920	.235500	.0391500
BRVM MC	10	4147606856.5845	134021856528.2136	20404522626.737090	39992429052.1736450
MC %GDP I	10	.2330	.4080	.310700	.0645412
Valid N	10				

#### 4. Empirical Result

**Table 4**  
Regression Result <sup>a</sup>

Variables	Money Market	Capital Market	
Coefficients(C )	0.309**	0.071*	
Coefficients(I.C )	0.291**	0.400**	
t-values (C )	5.678	1.485	
t-values (I.C )	5.526	3.27	
Intercept (C )		.	
Intercept (I.C )			-3.101 <sup>b</sup>
			-1.925 <sup>b</sup>
R-square (C )			90.5%
R-square (C )			95.2%

\*\* 0.05 (95%),\*0.01 (90%) significance levels. (a)Dependent variable = GDP. (b) Figures in billions dollars

The research results indicate that the money markets of Cameroon (C) and Ivory Coast (I.C) both have significant contribution to their respective GDP. Even though the almost exert a similar pressure, excel regression approach reveals that Cameroon`s beta coefficient (0.309) slightly lies above that of Ivory Coast (0.291). The opposite is true for capital market performance. It is realized that Ivory Coast`s BRVM recorded a strong significant and positive role to the GDP from 2006 T0 2016. It yields this result at 95%significant level. Even at 90% level of significance, the DSX had a weak but positive contribution to

Cameroon GDP. The coefficient of determination for both economies record high above 90%. A good support for the regression equations which implies that the overall GDP of an economy sources from the activities of both money market and the capital market. And the activities of the money market can be pictured by the aggregate lending while the market capitalization reveals general performance of capital market.

### Regression Equations and Test of Hypothesis

$$GDP_C = -3.101 + 0.309(AL) + 0.071(MC)$$

$$GDP_{IC} = -1.925 + 0.291(AL) + 0.400(MC)$$

$$\beta_1 > \beta_2 (0.309 > 0.071), \beta_4 > \beta_3 (0.400 > 0.291).$$

$$\beta_1 > \beta_3 (0.309 > 0.291) \text{ and } \beta_4 > \beta_2 (0.400 > 0.071).$$

The result permits us to reject both hypothesis one and two. The money market in Cameroon performs more than its capital market ( $\beta_1 > \beta_2$  that is  $0.309 > 0.071$ ). On the other side the capital market of Ivory Coast outperforms its money market ( $\beta_4 > \beta_3$  that is  $0.400 > 0.291$ ). In this regards we could not accept the null hypothesis which states that, there is no difference in the performances of both markets in their respective economies. Similarly we could not accept hypothesis two because the performance of Cameroon's money and capital market is different from that of Ivory Coast. With regards to money market, Cameroon did a little better than Ivory Coast for the sample period ( $\beta_1 > \beta_3$  that is  $0.309 > 0.291$ ), but findings reveal that the Ivory Coast capital market through their regional stock market did well than Cameroon Douala stock exchange ( $\beta_4 > \beta_2$  that is  $0.400 > 0.071$ ).

### 5. Conclusion and Research Guides

There is a significant contribution from activities of 14 existing commercial banks and other money market institutions to the attained level of Cameroon's GDP. A similar contribution is noticed through the lending process of 18 Commercial banks and other money markets institutions in Ivory Coast. With almost the same population size (approximately 23 million) Cameroon's 14 commercials and other money market financial houses, recorded a little more contribution to her GDP than 18 of such institutions serving in Ivory Coast. However, the noted results of Capital market development and role of stock exchange market turns to be

opposite. Operating a regional stock exchange market, Ivory Coast Capital market activities summarized by the role of stock market capitalization, is proven to exert more development pressure on its GDP than its money markets. This is quite opposite to Cameroon where the capital market has a weak role to its GDP. To conclude, an economy that relies more on its capital market for her GDP growth (Ivory Coast) has a better growth and developmental prospect than one which depends more on her money market (Cameroon). Equally, a regional stock exchange market (BRVM) performance exceeds that of independent country's stock exchange market (DSX).

We therefore made the following recommendations: Similar to Backe et al. (2016) we recommend the CEMAC zone to have a single stock exchange market. This will be easy because they have existing cooperation like operating in a single central bank (BEAC). It will also be facilitated by merging the existing Douala stock exchange and the Libreville stock exchange market. Copying from BRVM, Euronext and the recent announced merging of the London stock exchange and Deutsche Börse will be a good step for these regions as this approach forms a 21<sup>st</sup> century stock exchange model. As the African Union takes a step to integrate an African passport, so should the continent take an initiative to integrate her financial systems. This could start by establishing regional stock markets which can merge into a single continent stock exchange market in the future. Money market and its continuous development should not equally be neglected by either of these countries. This is because its role in mobilizing short term funding for short term financial needs remain a necessity to an economy.

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